



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/826,437	04/16/2004	Eduardo L. Quioc	5702-01051	1043
<div>7590 01/24/2008</div> <div>L.C. Begin &amp; Associates, PLLC PMB 403 510 Highland Avenue Milford, MI 48381</div>				
			EXAMINER CULBRETH, ERIC D	
			ART UNIT 3616	PAPER NUMBER
			MAIL DATE 01/24/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

**Office Action Summary****Application No.**

10/826,437

**Applicant(s)**

QUIOC ET AL.

**Examiner**

Eric Culbreth

**Art Unit**

3616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 November 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7 and 9-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 9-34 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-6, 18, 27-29 and 32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- a. In the last line of claim 1 there is no antecedent basis for "the inflatable restraint system".
- b. In claim 18, line 2 there is no antecedent basis for "the tablets".
- c. In claim 27, lines 3-4 there is no antecedent basis for "said inflator body".
- d. In claim 27, last line there is no antecedent basis for "the inflatable restraint system".
- e. In claim 32, line 3 there is no antecedent basis for "the combustion cup".

### ***Claim Rejections - 35 USC § 102***

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. Claims 7, 9-10, 13, 30-31 and 33-34 are rejected under 35 U.S.C. 102(b) as being anticipated by Kirchoff et al (US 3,972,545, of record).

Kirchoff et al discloses an inflator 5 for an inflatable restraint system in a vehicle (first two lines of abstract) comprising an inflator housing or body 6 having first and

Art Unit: 3616

second ends and an inner peripheral wall, a tube or booster cup 34 extending in the body and having an outer peripheral wall and an end surface extending inwardly from the outer peripheral wall. The booster cup has a first propellant charge or pyrotechnic 21 positioned therein. The inner peripheral wall and outer peripheral wall are separated by a substantially annular space 16, 17 having a second propellant charge 18 positioned therein. An initiator assembly or squib 19 is disposed proximate the first end and operable to ignite the first charge 21. A filter 22, 26, 28, 29, 30, 32 abuts the booster cup end surface and a perforated disk 31 abuts the filter (as functionally recited, not only filters 22 and 32, but also pH neutralizer 26 and coolers 28 and 29 would remove or filter particulates, as neutralizer 26 has powder and coolers 28, 29 and 32 have coarse wire). A nozzle or annulus housing 33 is positioned at the second end of the body and abuts the perforated disc, the nozzle defining a nozzle outlet for supplying inflation gas to the restraint system (note column 4, lines 15-16, where gas passes through the perforated plate and perforated annulus 33 into the discharge orifice 13, and the cross section of annulus 33 in the figure, where there is an outlet or nozzle in communication with outlet 13)(claim 7). The filter has a length of one-fourth to one-half the total length of the body upon inspection of the figure (claim 9). As indicated by the phantom lines inside tube 34, the tube is cylindrical and as illustrated is coaxial substantial with the inflator body (claim 10). Regarding claim 13, Kirchoff et al's filter is substantially cylindrical (i.e., the body is cylindrical to allow screwing on at threads 11, and hence the filter is cylindrical) at its periphery positioned adjacent the inner peripheral wall. The filter has a substantially planar end positioned flush with the cup

Art Unit: 3616

end surface. The product (inflator) would be assembled by the steps of claim 30 (positioning a booster cup, placing a charge in the space between the booster cup and body, inserting the filter then disc, and positioning a nozzle member in the inflator body constraining the filter and charge from movement) (claims 30 and 34). Charge 18 in the space is in the form of tablets (claim 31), and as functionally recited in claim 33 the filter length is sized to reduce or increase a gas pressure resulting from activation of a gas generator (i.e., this is a functional limitation of intended use; the filter would do one or the other).

***Claim Rejections - 35 USC § 103***

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claims 1-6, 11-12, 14-21, 27-29 and 32 as best understood are rejected under 35 U.S.C. 103(a) as being unpatentable over Kirchoff et al in view of Goetz et al US 4,394,033 (of record).

Kirchoff et al does not disclose an apertured wall for the booster cup. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kirchoff et al to include an apertured outer wall on the booster cup or initiator tube because the substitution of Goetz et al's perforated tube for Kirchoff et al's rupturing tube would have yielded the predictable results of gases from the booster material contacting the tablets to one of ordinary skill in the art at the time of the invention (claims 1-6, 11, 14, 18-19, and 27-29; the other features of these claims are in

Art Unit: 3616

Kirchoff et al, as discussed in the 35 USC 102 rejection above). Regarding claims 12 and 32, the annular space in Kirchoff et al containing tablets 18 extends longitudinally from the body first end to a point substantially coplanar with the cup end surface.

Regarding claims 15-17, Kirchoff et al's tablets 18 are "stacked" adjacently in the annular space with cylindrical axes oriented perpendicular to the inner peripheral wall.

Forming annulus 33 and adapter 12 as integral (hence as a threaded nozzle engaged with the inflator body and the perforated plate) would be an obvious matter of design

choice, as parts are integral if they are rigidly secured together as a single unit; at any rate, the use of a one piece construction instead of separate pieces is a matter of

obvious engineering design choice (In re Fridolph, 50 CCPA 745, 89 F. 2d 509, 135

USPQ 319). The inflatable restraint in Kirchoff et al is an airbag (lines 1-2 of the

abstract), and the booster cup or tube 34 is connected to the initiator body or squib

holder for squib 19 such that it is suspended from the initiator body and supported only

by attachment to the initiator body inasmuch as applicant's invention (claims 20-21).

7. Claims 22-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kirchoff et al in view of Goetz et al as applied to claim 14 above, and further in view of Schneider et al US006279945B1, of record.

The features of claims 22-26 are found in the combination of Kirchoff et al and Goetz et al above, except for an airbelt. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kirchoff et al and Goetz et al

Art Unit: 3616

above to include the inflator on an airbelt in order to decrease the focusing of loads in the seat belt (Schneider et al, column 1, lines 49-57).

### ***Response to Arguments***

8. Applicant's arguments filed 11/1/07 have been fully considered but they are not persuasive.

Regarding applicant's remarks on page 7 of the paper filed 11/1/07 that Kirchoff et al's pH neutralizer and cooling structure cannot be considered part of the filter, this is not persuasive because, as noted in the 102 rejection above, the neutralizer and cooling layer would function as a filter because they are made of powder and coarse wire respectively and hence would remove or filter out particulates in the gas moving through them. Kirchoff et al even anticipates that there will be items moving through the neutralizer and cooler that need to be filtered because a second filter 32 is on the side of the neutralizer and cooling layers opposite the first filter 22 and propellant. Moreover, as definitions of a filter includes "a porous substance through which a liquid or gas is passed in order to remove constituents such as suspended matter" (The American Heritage Dictionary) and "any substance, as cloth [which would include coarse woven material like Kirchoff et al's cooling layer], paper, porous porcelain, or a layer of charcoal or sand [which would be like Kirchoff et al's powder], through which liquid, air, smoke, or the like, is passed to remove suspended impurities or to recover solids" (The Random House College Dictionary), Kirchoff et al's layers would function as a filter in addition to cooling and pH balance.

Art Unit: 3616

Regarding applicant's remarks on page 7 of the paper filed 11/1/07 that Kirchoff et al's invention does not suggest alternatives to the rupturing tube and Kirchoff et al's invention would not be accomplished in combining with Goetz et al because Kirchoff et al teaches at column 3, line 49 through column 4, line 4 that the rupturable tube is necessary to result in delayed or slower delivery of gases, it is noted that Kirchoff et al is not required to suggest alternatives ("...it is not necessary that either reference actually suggest, expressly or in so many words changes or possible improvements which Appellants made; all that is required is that Appellants made the claimed invention merely by applying knowledge clearly present in the prior art" (In re Sheckler 168 USPQ 716, 58 CCPA936)), and the combination is actually a combination of teachings and not a bodily incorporation of parts (i.e., in the combination the apertures would be adjusted for desired combustion rates for the chambers, or the apertured tube would be in addition to the thin walled sleeve to achieve the desired combustion characteristics; so long as the combination has predictable results, the combination is obvious).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Culbreth whose telephone number is 571/272-6668. The examiner can normally be reached on Monday-Thursday, 9:00-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Dickson can be reached on 571/272-6669. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Art Unit: 3616

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Eric Culbreth  
Primary Examiner  
Art Unit 3616

ec  
/Eric Culbreth/  
Primary Examiner, Art Unit 3616